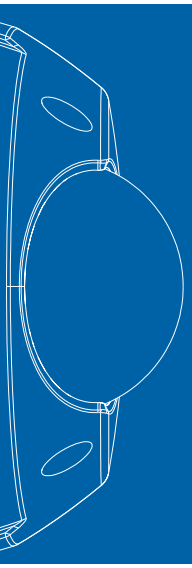
AXIS 209FD-R Network Camera

Compact, rugged network camera for buses and trains



AXIS 209FD-R is a compact, rugged network camera designed specifically to withstand tough environments. Its tamper-resistant casing stands up to the vibrations, humidity, dust and fluctuating temperatures found in buses and trains.

FLAT DESIGN >

AXIS 209FD-R is a palm-sized discreet network camera specifically designed for mass transit vehicles. The flat, tamper-resistant casing makes it ideal for installation anywhere in buses or trains.

PROGRESSIVE SCAN >

Progressive scan technology provides full resolution images of moving objects, with no distortion.

VIBRATION, HUMIDITY AND DUST RESISTANT >

The rugged casing is built to handle the vibrations, humidity, dust and temperature fluctuations typical for mass transit vehicles.

TAMPERING ALARM >

With tampering alarm functionality, AXIS 209FD-R features effective casing protection and sends an alarm when tampering is detected.

POWER OVER ETHERNET >

Power over Ethernet (IEEE 802.3af) supplies power to the camera via the network, which eliminates the need for power cables and reduces installation costs.

AXIS® COMMUNICATIONS

FOR DEMANDING ENVIRONMENTS

AXIS 209FD-R Network Camera is a compact, rugged network camera designed specifically for the demanding environments found in mass transit vehicles. Its durable transparent cover provides excellent protection against dust, humidity and vibrations.

The interiors of buses and trains are seldom designed with visual surveillance in mind. The curved surfaces and soft padding often found in these vehicles can provide quite a challenge when mounting a camera. Thanks to its small size, the AXIS 209FD-R is ideal for installing in these situations - only a small flat surface is required to mount it.

COMPACT & DISCREET DESIGN

Measuring only 4 cm (1.6 inches) in height, AXIS 209FD-R is discreet, takes up a minimum of space, and fits perfectly in any area of a bus or train. Every part of the camera is optimized, from the electronic and camera components, to the placement of the network connector.

RESISTANT TO VIBRATIONS, HUMIDITY AND DUST

AXIS 209FD-R Network Camera is designed to be easy to install, and to remain securely in place over time, withstanding the tough and changing conditions in a bus or train. It has been developed in cooperation with leading public transport operators, to ensure a robust construction that can withstand these conditions without premature wear and tear. The rugged casing is built to handle the vibrations and dust typically found in mass transit vehicles. The small built-in heater takes care of any moisture and thereby eliminates condensation on the lens or cover.

TAMPERING ALARM

AXIS 209FD-R features a tampering alarm, an intelligent feature incorporated in the camera, further strengthening the benefits of digital IP-based video. The tampering alarm detects when AXIS 209FD-R is moved, obscured, covered or sprayed.

PROGRESSIVE SCAN

When using traditional, interlaced scanning techniques, image quality is degraded when a frame of recorded video is frozen. AXIS 209FD-R uses instead progressive scan, which drastically reduces motion blur and provides undistorted images at full resolution. The crisp and clear images delivered by the AXIS 209FD-R facilitate the identification of individuals and objects of interest.

SIMULTANEOUS MOTION JPEG AND MPEG-4

AXIS 209FD-R offers simultaneous Motion JPEG and MPEG-4 video streams. These streams can be optimized for image quality and bandwidth efficiency, by configuring the frame rate, resolution, compression level and format – offering up to 30 frames per second in VGA resolution.

EASY INSTALLATION

AXIS 209FD-R is quick and easy to install. Its design allows flexible installation on ceilings or side panels. Sloping surfaces can be compensated for, by horizontal camera adjustment, and tilt and rotation of the lens. The AXIS Installation Monitor can be used to quickly and easily view the image from the camera, to check the position and focus.

POWER OVER ETHERNET

Equipped with Power over Ethernet (PoE) support, AXIS 209FD-R uses the Ethernet cable for both power and video, making installation quick and easy. The cable is fitted with a connector specially designed to withstand the vibrations in buses and trains.

INTERNET PROTOCOL SUPPORT

As well as the standard IP protocol version 4, support for IPv6 is included as insurance against the growing shortage of IPv4 addresses.

SECURITY AND NETWORK MANAGEMENT

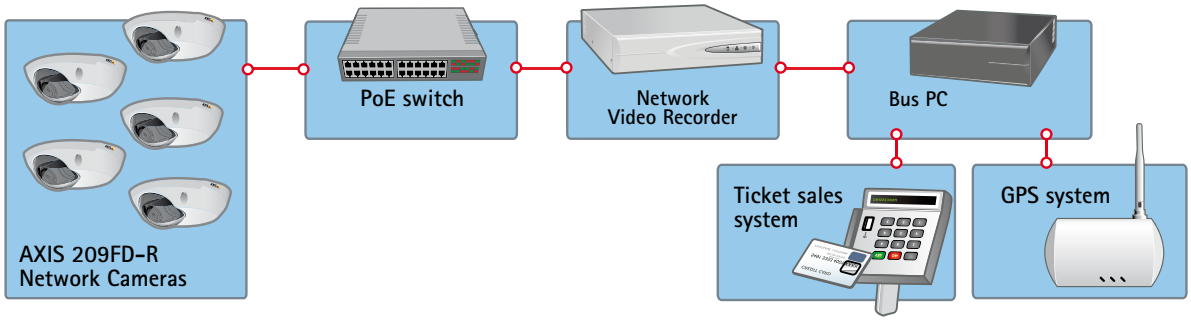
AXIS 209FD-R offers a high degree of security, by using multi-level passwords, IP address filtering and HTTPS encryption. It also provides powerful event management functionality such as motion detection and pre/post-alarm image buffering.

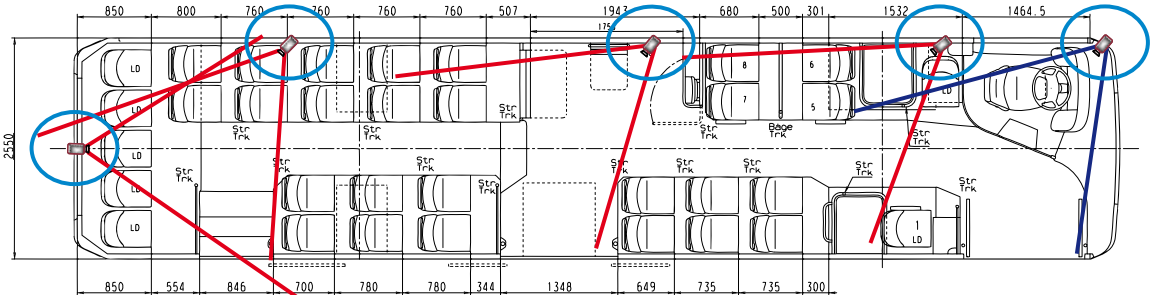
OPEN PROGRAMMING INTERFACE FOR CUSTOMIZED APPLICATIONS

AXIS 209FD-R includes the industry standard Axis Application Programming Interface, AXIS VAPIX™ API, which facilitates the development of customized software solutions. It also ensures that users benefit from the market's widest range of third-party applications, available from Axis Application Development Partners.

A TYPICAL INSTALLATION

Simplify the installation by powering cameras from a PoE switch.

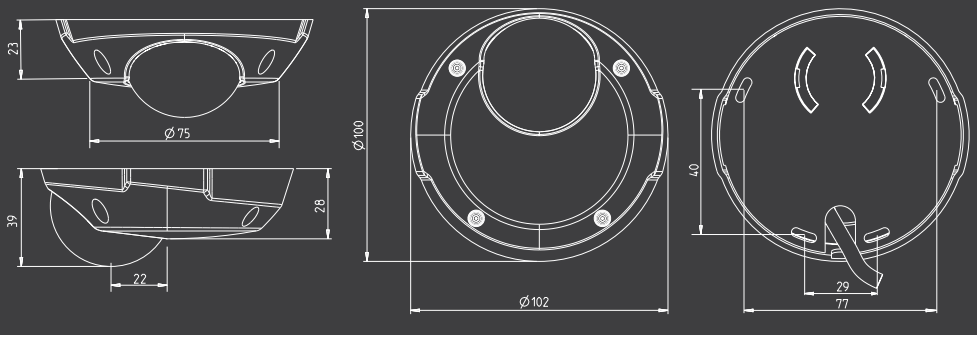




The five cameras in this diagram are all powered by one PoE switch. Each camera uses a single cable for both power and video.

DIMENSIONS

Measurements in millimeters



TECHNICAL SPECIFICATIONS - AXIS 209FD-R NETWORK CAMERA

Image Sensor	1/4" Progressive Scan RGB VGA CMOS
Lens	3.0 mm, F2.0 Fixed iris Focus range: 0.5 m to infinity
Angle of view	Horizontal viewing angle: 66°
Camera angle adjustment	Tilt 0-90° Pan ±10° Rotation ±10°
Minimum illumination	1.5 lux, F2.0
Video compression	Motion JPEG MPEG-4 Part 2 (ISO/IEC 14496-2) with motion estimation Profiles: Simple Profile level 0-3 and Advanced Simple Profile level 0-5
Resolutions	9 resolutions from 640x480 to 160x120 via API 6 selections via configuration Web page
Frame rate	Up to 30 fps in all resolutions (Motion JPEG or MPEG-4)
Video streaming	Simultaneous Motion JPEG and MPEG-4 Controllable frame rate and bandwidth Constant and variable bit rate (MPEG-4)
Image settings	Compression levels: 100 Rotation: 0º, 180º Configurable color level, brightness, sharpness, contrast, white balance, exposure control Overlay capabilities: time, date, text, image or privacy mask
Shutter time	1/4 s to 1/10000 s
Security	Multiple user access levels with password protection IP address filtering HTTPS encryption
Users	20 simultaneous users Unlimited number of users using multicast (MPEG-4)
Alarm and event management	Events triggered by built-in multi-window motion detection, tampering alarm or according to a schedule Image upload over FTP, email and HTTP Notification over TCP, email and HTTP Pre- and post alarm buffer of 9 MB (approx 5 min of 320x240 resolution video at 4 frames per sec)
Connector	Female RJ-45 Industrial connector, compatible with Woodhead RJ-Lnxx IP67 connectors
Casing	Rugged casing with polycarbonate base and transparent cover Tamper-proof mounting
Processors and memory	CPU, video processing and compression: ARTPEC-A RAM: 32 MB Flash: 8 MB
Power	Power over Ethernet (IEEE 802.3af) with power classification: Class 1 (max 3.84 W)
Operating conditions	Temperature: 0 – 50 ºC (32–122 ºF)

Installation, management and maintenance	AXIS Camera Management tool on CD, and web-based configuration Configuration of backup and restore Firmware upgrades over HTTP or FTP, firmware available at www.axis.com
Video access from web browser	Camera live view Video recording to file (ASF)
Minimum web browsing requirements	Pentium III CPU 500 MHz or higher, or equivalent AMD 128 MB RAM, AGP graphics card 32 MB RAM, Direct Draw Windows XP, 2000, DirectX 9.0 or later Internet Explorer 6.x or later For other operating systems and browsers see www.axis.com/techsup
System integration support	Powerful API for software integration including AXIS VAPIX API*, AXIS Media Control SDK, event trigger data in video stream Quality of Service (QoS) Layer 3, DiffServ Model Embedded Linux operating system ** Available at www.axis.com*
Supported protocols	IPv4/v6, HTTP, HTTPS, SSL/TLS*, TCP, ICMP, QoS, SNMPv1/v2c/v3 (MIB-II), RTSP, RTP, UDP, IGMP, RTCP, SMTP, FTP, DHCP, UPnP, Bonjour, ARP, DNS, DynDNS, SOCKS, NTP More information on protocol usage available at www.axis.com ** This product includes software developed by the Open SSL Project for use in the Open SSL Tool kit (www.openssl.org)*
Accessories (included)	**Single pack:** AXIS PoE Midspan 1-port, key for tamper-proof screws, silica gel bag. Installation Guide, CD with installation tool, software and User's Manual, MPEG-4 licenses (1 encoder, 1 decoder) **10-pack:** Key for tamper-proof screws, 10 silica gel bags, Installation Guide, CD with installation tool, software and User's Manual, MPEG-4 licenses (1 encoder, 1 decoder per camera) **50-pack:** Key for tamper-proof screws, 50 silica gel bags, MPEG-4 licenses (1 encoder, 1 decoder per camera)
Video management software (not incl.)	AXIS Camera Station - Surveillance application for viewing, recording and archiving up to 25 cameras See www.axis.com/partner/adp_partners.htm for more software applications via partners
Accessories (not incl.)	Spare top covers (10-pack) Extra silica gel bags for re-installation (100-pack) AXIS MPEG-4 Decoder multi-user license pack
Approvals	CE: Automotive environment EN60950, IP66, ISO16750-3
Dimensions (H x W x D) and weight	39 x 102 x 100 mm (1.5" x 4.0" x 3.9") 0.18 kg (0.40 lb)

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